C L A I M S

What is claimed is:

1. In a self-supporting, heliothermal flat collector module, including:

- a sheet metal panel,
- a register-shaped arrangement of capillary tubes separated from one another at a distance for the flow of a fluid medium that lies on the side opposite the side of the sheet metal panel to be irradiated, and
- a thermally insulating insulation core that is also positioned on the rear side,

the improvement wherein

- the capillary tubes of the register-shaped arrangement are placed in contact with the surface of the insulation core, and
- the insulation core is bonded to the sheet metal panel by means of an elastic adhesive layer, whereby the capillary tubes are at least partially embedded into the adhesive layer between the sheet metal panel and the insulation core.

2. Flat collector module as in Claim 1, wherein each of the capillary tubes of the register-shaped arrangement is placed into a slot in the insulation core, and wherein the capillary tubes lie essentially flush with the insulation core or extend above the insulation core by an amount (H), which amount essentially corresponds to the thickness dimension (D) of a fluid adhesive layer before hardening.

3. Flat collector module as in Claim 1, wherein the surface of the insulation core is flat, and wherein the capillary tubes are laid directly onto the flat surface.

4. Flat collector module as in Claim 1, wherein the insulation core comprises foam.

5. Flat collector module as in Claim 4, comprises foamed polystyrene or polyurethane.

6. Flat collector module as in Claim 1, wherein insulation core comprises fibrous material.

7. Flat collector module as in Claim 1, wherein the material of the adhesive layer has a higher thermal-conductivity coefficient than the material of the insulation core.

8. Flat collector module as in Claim 1, wherein the adhesive layer is formed of an adhesive based on meth-acrylate.

9. Flat collector module as in Claim 1, wherein the slots possess a triangular, rectangular, oval, partially-round, or Ω cross-section.

10. Flat collector module as in Claim 1, wherein the capillary tubes comprise a material selected from the group consisting of metal, peripherally metal-coated plastic, and of non-coated plastic.

11. Flat collector module as in Claim 1, wherein the surface of the insulation core includes numerous recesses to receive the adhesive.

12. Flat collector module as in Claim 11, wherein the surface is provided with slots of a given depth, and the recesses extend essentially to the slot depth, or extend slightly past it.

13. Flat collector module as in Claim 11, wherein the recesses are formed by the pressure of a bristle roller or similar device.

14. Flat collector module as in Claim 1, wherein the sheet metal panel is formed of one piece with two angled, arc-shaped edge profiles.

15. Flat collector module as in Claim 1, wherein the sheet metal panel is formed of one piece with two opposing, angled

edges to connect the sheet metal panels to one another in a folded technique.

16. Flat collector module as in Claim 1, wherein the side of the insulation core facing away from the sheet metal panel is supported by a plate-shaped stiffening element.

17. Flat collector module as in Claim 1, wherein the insulation core is partially surrounded by a plastic or metal cassette.

18. Flat collector module as in Claim 17, wherein the metal cassette includes two opposing margins angled outwards so that an elastic body is positioned between the angled margin ~~(21)~~ of the metal cassette.

19. Flat collector module as in Claim 18, wherein the elastic body is a foam strip or adhesive band.

20. Flat collector module as in Claim 1, wherein the sheet metal panel comprises a titanium-zinc alloy.

21. Flat collector module as in Claim 1, wherein the module possesses an overall thickness, including insulation core, in the range of 10 mm to 50 mm.

22. Flat collector module as in Claim 1, which is installed in a stair step roof, whose surface consists of sheet metal panels connected to one another.

23. Flat collector module as in Claim 1, wherein the module possesses an overall thickness, including insulation core, in the range of 25 mm to 35 mm.